IFW

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Doran R. Pace, Patent Attorney

INFORMATION DISCLOSURE STATEMENT
Examining Group 1652
Patent Application
Docket No. UF-314XC1
Serial No. 10/644,123

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Art Unit	:	1652
Applicants	:	Nigel Gordon John Richards, Christopher Harry Chang, Ammon B. Peck
Serial No.	:	10/644,123
Filed	:	August 20, 2003
Conf. No.	:	7962
For	:	Polynucleotide Encoding Oxalate Decarboxylase from Aspergillus Niger and Methods of Use

Mail Stop Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313

INFORMATION DISCLOSURE STATEMENT UNDER 37 CFR §§1.97 AND 1.98

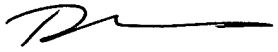
Sir:

In accordance with 37 CFR §1.56, the references listed on the attached form PTO/SB/08 are being brought to the attention of the Examiner for consideration in connection with the examination of the above-identified patent application. A copy of each cited reference is enclosed.

It is respectfully requested that the references cited on the attached form PTO/SB/08 be considered in the examination of the subject application and that their consideration be made of record.

Applicants respectfully assert that the substantive provisions of 37 CFR §§1.97 and 1.98 are met by the foregoing statement.

Respectfully submitted,



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DRP/amh
Attachments: Form PTO/SB/08; copies of references cited therein.

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT

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Sheet	1	of	6

Complete if Known	
Application Number	10/644,123
Filing Date	August 20, 2003
First Named Inventor	Nigel G. J. Richards
Art Unit	1652
Examiner Name	
Attorney Docket Number	UF-314XC1

U.S. PATENT DOCUMENTS

Examiner Initials*	Cite No. [1]	Document Number Number - Kind Code[2] (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
	U1	US-6,355,242	03-12-2002	Allison *et al.*	All
	U2	US-6,297,425	10-02-2001	Scelonge *et al.*	All
	U3	US-			
	U4	US-			
	U5	US-			
	U6	US-			
	U7	US-			
	U8	US-			
	U9	US-			

FOREIGN PATENT DOCUMENTS

Examiner Initials*	Cite No. [1]	Foreign Patent Document Country Code [3] - Number [4] - Kind Code[5] (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T[6]
	F1	WO 98/52586	11-26-1998	Ixion Biotechnology Inc.	All	
	F2					
	F3					
	F4					
	F5					
	F6					
	F7					

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This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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Sheet 2 of 6

Complete if Known	
Application Number	10/644,123
Filing Date	August 20, 2003
First Named Inventor	Nigel G. J. Richards
Group Art Unit	1652
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Attorney Docket Number	UF-314XC1

NON PATENT LITERATURE DOCUMENTS

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	R1	ALLISON, M.J. *et al.* "Oxalate Degradation by Microbes of the Large Bowel of Herbivores: The Effect of Dietary Oxalate", *Science*, 1981, pp. 675-676, Vol. 212, No. 4495.	
	R2	ALLISON, M.J. *et al.* "Oxalobacter Formigenes gen. nov., sp. nov.: Oxalate-Degrading Anaerobes that Inhabit the Gastrointestinal Tract", *Arch Microbiol.*, 1985, pp. 1-7, Vol. 141.	
	R3	ALLISON, M.J. *et al.* "Oxalate Degradation by Gastrointestinal Bacteria from Humans", *J. Nutr.*, 1986, pp. 455-460, Vol. 116.	
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	R5	ANAND, R. *et al.* "Structure of Oxalate Decarboxylase from *Bacillus Subtilis* at 1.75 A Resolution", *Biochemistry*, 2002, pp. 7659-7669, Vol. 41.	
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	R7	BAR, G. *et al.* "High-Frequency (140-GHz) Time Domain EPR and ENDOR Spectroscopy: The Tyrosyl Radical-Diiron Cofactor in Ribonucleotide Reductase from Yeast", *J. Am. Chem. Soc.*, 2001, pp. 3569-3576, Vol. 123.	
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	R11	DOANE, L.T. *et al.* "Microbial Oxalate Degradation: Effects on Oxalate and Calcium Balance in Humans", *Nutr. Res.*, 1989, pp. 957-964, Vol. 9.	
	R12	DUNWELL, J.M. *et al.* "Microbial Relatives of the Seed Storage Proteins of Higher Plants: Conservation of Structure and Diversification of Function During Evolution of the Cupin Superfamily", *Microbiol. Mol. Biol. Rev.*, 2000, pp. 153-179, Vol. 64, No. 1.	
	R13	DUTTON, M.V. *et al.* "Oxalate Production by Fungi: Its Role In Pathogenicity and Ecology in the Soil Environment", *Can. J. Microbiol.*, 1996, pp. 881-895, Vol. 42, Canada.	

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Sheet 3 of 6

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First Named Inventor	Nigel G. J. Richards
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Attorney Docket Number	UF-314XC1

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	R14	EMILIANI, E. *et al.* "Enzymatic Oxalate Decarboxylation in Aspergillus Niger", *Arch. Biochem. Biophys.*, 1964, pp. 488-493, Vol. 105.	
	R15	EMILIANI, E. *et al.* "Enzymatic Oxalate Decarboxylation in Aspergillus Niger: Hydrogen Peroxide Formation and Other Characteristics of the Oxalate Decarboxylase", *Biochmica Biophysica Acta*, 1968, pp. 414-421, Vol. 167.	
	R16	GANE, P.J. *et al.* "Modeling Based on the Structure of Vicilins Predicts a Histidine Cluster in the Active Site of Oxalate Oxidase", *J. Mol. Evol.*, 1998, pp. 488-493, Vol. 46.	
	R17	HALCROW, M. A. "Chemically Modified Amino Acids in Copper Proteins that Bind or Activate Dioxygen", *Angew. Chem. Int. Ed.*, 2001, pp. 346-349, Vol. 40, No. 2.	
	R18	HALLIWELL, B. "Non-Enzymic Catalysis of Oxalate Decarboxylation by Light and Flavins", *Biochem. J.*, 1972, pp. 497-498, Vol. 129.	
	R19	KATHIARA, M. *et al.* "Detection and Partial Characterization of Oxalate Decarboxylase from *Agaricus Bisporus*", *Mycol. Res.*, 2000, pp. 345-350, Vol. 104, No. 3.	
	R20	KESARWANI, M. *et al.* "Oxalate Decarboxylase from *Collybia Velutips*: Molecular Cloning and its Overexpression to Confer Resistance to Fungal Infection in Transgenic Tobacco and Tomato", *J. Biol. Chem.*, 2000, pp. 7230-7238, Vol. 275, No. 10.	
	R21	KIMMERLING, E.A. *et al.* "Invasive Aspergillus Niger with Fatal Pulmonary Oxalosis in Chronic Obstructive Pulmonary Disease", *Chest*, 1992, pp. 870-872, Vol. 101, No. 3.	
	R22	KOTSIRA, V.P. *et al.* "Oxalate Oxidase from Barley Roots: Purification to Homogeneity and Study of Some Molecular, Catalytic, and Binding Properties", *Arch. Biochem. Biophys.*, 1997, pp. 239-249, Vol. 340, No. 2.	
	R23	KREBS, C. *et al.* "Mechanism of Rapid Electron Transfer During Oxygen Activation in the R2 Subunit of *eEscherichia coli* Ribonucleotide Reductase. 2. Evidence for and Consequences of Blocked Electron Transfer in the W48F Variant", *J. Am. Chem. Soc.*, 2000, pp. 12207-12219, Vol. 122.	
	R24	KUNST, F. *et al.* "The Complete Genome Sequence of the Gram-Positive Bacterium *Bacillus Subtilis*", *Nature*, 1997, pp. 249-256, Vol. 390.	
	R25	LANDRY, M.M. *et al.* "Calcium Oxalate Crystal Deposition in Necrotizing Otomycosis Caused by Aspergillus Niger", *Mod. Pathol.*, 1993, pp. 493-496, Vol. 6.	
	R26	LILLEHOJ, E.B. *et al.* "An Oxalic Acid Decarboxylase of Myrothecium Verrucaria", *Arch. Biochem. Biophys.*, 1965, pp. 216-220, Vol. 109.	

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Sheet 4 of 6

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First Named Inventor	Nigel G. J. Richards
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	R27	MEHTA, A. *et al.* "Oxalate Decarboxylase from *Collybia Velutipes* – Purification, Characterization, and cDNA Cloning", *J. Biol. Chem.*, 1991, pp. 23548-23553, Vol. 266, No. 35.	
	R28	METZGER, J.B. *et al.* "Pulmonary Oxalosis Caused by Aspergillus Niger", *Am. Rev. Respir. Dis.*, 1984, pp. 501-502, Vol. 129.	
	R29	NEVES-PETERSON, M.T. *et al.* "Engineering the pH-Optimum of a Triglyceride Lipase: From Predictions Based on Electrostatic Computations to Experimental Results", *J. Biotech.*, 2001, pp. 225-254, Vol. 87.	
	R30	NIELSEN, J.E. *et al.* "Electrostatics in the Active Site of an α-Amylase", *Eur. J. Biochem.*, 1999, pp. 816-824, Vol. 264.	
	R31	PARAST, C.V. *et al.* "Hydrogen Exchange of the Glycyl Radical of Pyruvate Formate-Lyase Is Catalyzed by Cysteine 419", *Biochemistry,* 1995, pp. 2393-2399, Vol. 34, No. 8.	
	R32	PARAST, C.V. *et al.* "Electron Paramagnetic Resonance Evidence for a Cysteine-Based Radical in Pyruvate Formate-Lyase Inactivated with Mercaptopyruvate", *Biochemistry,* 1995, pp. 5712-5717, Vol. 34.	
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	R34	QUAYLE, J.R. "Carbon Assimilation by *Pseudomonas Oxalaticus* (OX1) Decarboxylation of Oxalyl-Coenzyme A to Formyl-Coenzyme A", *Biochem. J.*, 1963, pp. 492-503, Vol. 89.	
	R35	REQUENA, L. *et al.* "Barley (Hordeum Vulgare) Oxalate Oxidase is a Manganese-Containing Enzyme", *Biochem. J.*, 1999, pp. 185-190, Vol. 343.	
	R36	RUPP, H. *et al.* "Electron Spin Relaxation of Iron-Sulphur Proteins Studied by Microwave Power Saturation", *Biochimica Biophysica Acta,* 1978, pp. 255-269, Vol. 537.	
	R37	SEEBACH, D. "Methods of Reactivity Umpolung", *Angew. Chem. Intl. Ed. Engl.*, 1979, pp. 239-258, Vol. 18, No. 4.	
	R38	SHAW, A. *et al.* "Protein Engineering of α-Amylase for Low pH Performance", *Current Opinion in Biotechnology,* 1999, pp. 349-352, Vol. 10, No. 4.	
	R39	SHIMAZONO, H. "Oxalic Acid Decarboxylase, A New Enzyme from the Mycelium of Wood Destroying Fungi", *J. Biochem.*, 1955, pp. 321-340, Vol. 42, No. 3.	

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Sheet 5 of 6

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	R40	SHIMAZONO, H. *et al.* "Enzymatic Decarboxylation of Oxalic Acid", *J. Biol. Chem.*, 1957, pp. 151-159, Vol. 227.	
	R41	SOLOMONS, C.C. *et al.* "Calcium Citrate for Vulvar Vestibulitus", *J. Repro. Med.*, 1991, pp. 879-882, Vol. 36.	
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	R44	TANNER, A. *et al.* "Oxalate Decarboxylase Requires Manganese and Dioxygen for Activity", *J. Biol. Chem.*, 2001, pp. 43627-43634, Vol. 276, No. 47.	
	R45	VILLAFRANCA, J.J. *et al.* "Manganese (II) and Substrate Interaction with Unadenylylated Glutamine Synthetase (*Escherichia Coli* W). II. Electron Paramagnetic Resonance and Nuclear Magnetic Resonance Studies of Enzyme-Bound Manganese(II) with Substrates and a Potential Transition-State Analogue, Methionine Sulfoximine", *Biochem.*, 1976, pp. 544-553, Vol. 15, No. 3.	
	R46	WALTER, P. *et al.* "Signal Sequence Recognition and Protein Targeting to the Endoplasmic Reticulum Membrane", *Annu. Rev. Cell Biol.*, 19-94, pp. 87-119, Vol. 10.	
	R47	WOO, E. *et al.* "Germin is a Manganese Containing Homohexamer with Oxalate Oxidase and Superoxide Dismutase Activities", *Nat. Struct. Biol.*, 2000, pp. 1036-1040, Vol. 7, No. 11.	
	R48	KARLIN, S. *et al.* "Methods for Assessing the Statistical Significance of Molecular Sequence Features by Using General Scoring Schemes", *Proc. Natl. Acad. Sci. USA*, 1990, pp. 2264-2268, Vol. 87.	
	R49	KARLIN, S. *et al.* "Applications and Statistics for Multiple High-Scoring Segments in Molecular Sequences", *Proc. Natl. Acad. Sci. USA*, 1993, pp. 5873-5877, Vol. 90.	
	R50	PADMAKUMAR, R. *et al.* "Evidence form Electron Paramagnetic Resonance Spectroscopy of the Participation of Radical Intermediates in the Reaction Catalyzed by Methymalonyl-Coenzyme A Mutase", *J. Biol. Chem.*, 1995, pp. 9295-9300, Vol. 270, No. 16.	
	R51	DRUMMOND, A.Y. *et al.* "Stages in Oxidations of Organic Compounds by Potassium Permanganate; Part I. The Permanganate-Manganate Stage; Part II. The Manganic-Manganous Stage", *J. Chem. Soc.*, 1953, pp. 435-443.	

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	R52	EDLUND, O. *et al.* "ENDOR Study of γ-Irradiated Single Crystals of Sodium Hydrogen Oxalate Monohydrate, $NaHC_2O_4H_2O$", *J. Magnetic Res.*, 1973, pp. 7-14, Vol. 10.	
	R53	BARD, A.J. *et al.* "Electrode Potentials and Voltammetric Properties", Encyclopedia of Electrochemistry of the Elements, 1975, pp. 267-328, Marcel Dekker, Inc., New York.	
	R54		
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